2003B133F-US
Response to OA dated 8 June 2006
Response dated 6 Oct 2006

In the Claims:

1. (Currently amended) A process to produce polymers comprising contacting one or more monomer(s), a catalyst system comprising one or more Lewis Acid(s) and an initiator, and a diluent comprising one or more hydrofluorocarbon(s) (HFC's) in a reactor comprising a bayonette.

2. (Original) The process of claim 1, wherein the process is a slurry polymerization process and the reactor is a tubular reactor.

3. (Previously presented) The process of claim 1, wherein the reactor further comprises a vertical cylindrical housing, an upper part, and a lower part.

4. (Original) The process of claim 3, wherein the reactor further comprises connecting pipes for delivery of the catalyst system in the lower part, and connecting pipes for the removal of the polymer in the upper part.

5. (Previously presented) The process of claim 1, wherein the reactor further comprises a shaft with blade mixers mounted along the height of the shaft.

6. (Previously presented) The process of claim 1, wherein the bayonette comprises a plurality of tubes.

7. (Original) The process of claim 6, wherein the tubes comprise sectors.

8. (Previously presented) The process of claim 1, wherein the bayonette comprises tube disks and tube baffles.

9. (Original) The process of claim 8, wherein the tube baffles comprise spaces between the sectors.

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10. (Previously presented) The process of claim 8, wherein the tube baffles comprise holes.

11. (Previously presented) The process of claim 8, wherein the reactor comprises a catalyst system delivery tube comprising an open end, the open end located in the space between the tube baffles.

12. (Original) The process of claim 11, wherein the open end of the catalyst system delivery tube is angled in a downward direction toward a mixer.

13. (Previously presented) The process of claim 8, wherein the reactor comprises one or more catalyst system delivery tube(s) comprising open ends.

14. (Original) The process of claim 13, wherein at least one open end is angled in a downward direction toward a mixer.

15. (Previously presented) The process of claim 1, wherein the reactor comprises a mixer located adjacent to a tube baffle.

16. (Previously presented) The process of claim 1, wherein the one or more monomer(s) comprise isobutylene, and isoprene.

17. (Currently amended) ~~The~~ A process to produce polymers comprising contacting one or more monomer(s), a catalyst system comprising a Lewis Acid and an initiator, and a diluent comprising one or more hydrofluorocarbon(s) (HFC's) in a reactor comprising a bayonette, ~~of claim 1,~~ wherein the one or more monomer(s) comprise ~~an~~ isobutylene and *para*-methylstyrene.

18. (Previously presented) The process of claim 1, wherein one or more hydrofluorocarbon(s) is represented by the formula: $C_xH_yF_z$ wherein x is an integer from 1 to 40 and y and z are integers of one or more.

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19. (Original) The process of claim 18, wherein x is from 1 to 10.

20. (Original) The process of claim 18, wherein x is from 1 to 6.

21. (Original) The process of claim 18, wherein x is from 1 to 3.

22. (Previously presented) The process of claim 1, wherein the one or more hydrofluorocarbon(s) is independently selected from the group consisting of fluoromethane; difluoromethane; trifluoromethane; fluoroethane; 1,1-difluoroethane; 1,2-difluoroethane; 1,1,1-trifluoroethane; 1,1,2-trifluoroethane; 1,1,1,2-tetrafluoroethane; 1,1,2,2-tetrafluoroethane; 1,1,1,2,2-pentafluoroethane; 1-fluoropropane; 2-fluoropropane; 1,1-difluoropropane; 1,2-difluoropropane; 1,3-difluoropropane; 2,2-difluoropropane; 1,1,1-trifluoropropane; 1,1,2-trifluoropropane; 1,1,3-trifluoropropane; 1,2,2-trifluoropropane; 1,2,3-trifluoropropane; 1,1,1,2-tetrafluoropropane; 1,1,1,3-tetrafluoropropane; 1,1,2,2-tetrafluoropropane; 1,1,2,3-tetrafluoropropane; 1,1,3,3-tetrafluoropropane; 1,2,2,3-tetrafluoropropane; 1,1,1,2,2-pentafluoropropane; 1,1,1,2,3-pentafluoropropane; 1,1,1,3,3-pentafluoropropane; 1,1,2,2,3-pentafluoropropane; 1,1,2,3,3-pentafluoropropane; 1,1,1,2,2,3-hexafluoropropane; 1,1,1,2,3,3-hexafluoropropane; 1,1,1,3,3,3-hexafluoropropane; 1,1,1,2,2,3,3-heptafluoropropane; 1,1,1,2,3,3,3-heptafluoropropane; 1-fluorobutane; 2-fluorobutane; 1,1-difluorobutane; 1,2-difluorobutane; 1,3-difluorobutane; 1,4-difluorobutane; 2,2-difluorobutane; 2,3-difluorobutane; 1,1,1-trifluorobutane; 1,1,2-trifluorobutane; 1,1,3-trifluorobutane; 1,1,4-trifluorobutane; 1,2,2-trifluorobutane; 1,2,3-trifluorobutane; 1,3,3-trifluorobutane; 2,2,3-trifluorobutane; 1,1,1,2-tetrafluorobutane; 1,1,1,3-tetrafluorobutane; 1,1,1,4-tetrafluorobutane; 1,1,2,2-tetrafluorobutane; 1,1,2,3-tetrafluorobutane; 1,1,2,4-tetrafluorobutane; 1,1,3,3-tetrafluorobutane; 1,1,3,4-tetrafluorobutane; 1,1,4,4-tetrafluorobutane; 1,2,2,3-tetrafluorobutane; 1,2,2,4-tetrafluorobutane; 1,2,3,3-tetrafluorobutane; 1,2,3,4-tetrafluorobutane; 2,2,3,3-tetrafluorobutane; 1,1,1,2,2-pentafluorobutane; 1,1,1,2,3-pentafluorobutane; 1,1,1,2,4-pentafluorobutane; 1,1,1,3,3-pentafluorobutane; 1,1,1,3,4-pentafluorobutane; 1,1,1,4,4-pentafluorobutane; 1,1,2,2,3-pentafluorobutane; 1,1,2,2,4-pentafluorobutane; 1,1,2,3,3-pentafluorobutane;

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1,1,2,4,4-pentafluorobutane; 1,1,3,3,4-pentafluorobutane; 1,2,2,3,3-pentafluorobutane; 1,2,2,3,4-pentafluorobutane; 1,1,1,2,2,3-hexafluorobutane; 1,1,1,2,2,4-hexafluorobutane; 1,1,1,2,3,3-hexafluorobutane, 1,1,1,2,3,4-hexafluorobutane; 1,1,1,2,4,4-hexafluorobutane; 1,1,1,3,3,4-hexafluorobutane; 1,1,1,3,4,4-hexafluorobutane; 1,1,1,4,4,4-hexafluorobutane; 1,1,2,2,3,3-hexafluorobutane; 1,1,2,2,3,4-hexafluorobutane; 1,1,2,2,4,4-hexafluorobutane; 1,1,2,3,3,4-hexafluorobutane; 1,1,2,3,4,4-hexafluorobutane; 1,2,2,3,3,4-hexafluorobutane; 1,1,1,2,2,3,3-heptafluorobutane; 1,1,1,2,2,4,4-heptafluorobutane; 1,1,1,2,2,3,4-heptafluorobutane; 1,1,1,2,3,3,4-heptafluorobutane; 1,1,1,2,3,4,4-heptafluorobutane; 1,1,1,2,4,4,4-heptafluorobutane; 1,1,1,3,3,4,4-heptafluorobutane; 1,1,1,2,2,3,3,4-octafluorobutane; 1,1,1,2,2,3,4,4-octafluorobutane; 1,1,1,2,3,3,4,4-octafluorobutane; 1,1,1,2,2,4,4,4-octafluorobutane; 1,1,1,2,3,4,4,4-octafluorobutane; 1,1,1,2,2,3,3,4,4-nonafluorobutane; 1,1,1,2,2,3,4,4,4-nonafluorobutane; 1-fluoro-2-methylpropane; 1,1-difluoro-2-methylpropane; 1,3-difluoro-2-methylpropane; 1,1,1-trifluoro-2-methylpropane; 1,1,3-trifluoro-2-methylpropane; 1,3-difluoro-2-(fluoromethyl)propane; 1,1,1,3-tetrafluoro-2-methylpropane; 1,1,3,3-tetrafluoro-2-methylpropane; 1,1,3-trifluoro-2-(fluoromethyl)propane; 1,1,1,3,3-pentafluoro-2-methylpropane; 1,1,3,3-tetrafluoro-2-(fluoromethyl)propane; 1,1,1,3-tetrafluoro-2-(fluoromethyl)propane; fluorocyclobutane; 1,1-difluorocyclobutane; 1,2-difluorocyclobutane; 1,3-difluorocyclobutane; 1,1,2-trifluorocyclobutane; 1,1,3-trifluorocyclobutane; 1,2,3-trifluorocyclobutane; 1,1,2,2-tetrafluorocyclobutane; 1,1,3,3-tetrafluorocyclobutane; 1,1,2,2,3-pentafluorocyclobutane; 1,1,2,3,3-pentafluorocyclobutane; 1,1,2,2,3,3-hexafluorocyclobutane; 1,1,2,2,3,4-hexafluorocyclobutane; 1,1,2,3,3,4-hexafluorocyclobutane; 1,1,2,2,3,3,4-heptafluorocyclobutane and mixtures thereof.

23. (Previously presented) The process of claim 1, wherein the one or more hydrofluorocarbon(s) is independently selected from monofluoromethane, difluoromethane, trifluoromethane, monofluoroethane, 1,1-difluoroethane, 1,1,1-trifluoroethane, 1,1,1,2-tetrafluoroethane, 1,1,1,2,2, pentafluoroethane, and mixtures thereof.

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24. (Previously presented) The process of claim 1, wherein the diluent comprises from 15 to 100 volume % HFC based upon the total volume of the diluent.

25. (Previously presented) The process of claim 1, wherein the diluent comprises from 20 to 100 volume % HFC based upon the total volume of the diluent.

26. (Previously presented) The process of claim 1, wherein the diluent comprises from 25 to 100 volume % HFC based upon the total volume of the diluent.

27. (Previously presented) The process of claim 1, wherein the diluent further comprises a hydrocarbon, a non-reactive olefin, and/or an inert gas.

28. (Original) The process of claim 27, wherein the hydrocarbon is a halogenated hydrocarbon other than an HFC.

29. (Original) The process of claim 28, wherein the halogenated hydrocarbon is methyl chloride.

30. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises one or more~~ one ~~of~~ or more Lewis acid(s) is represented by the formula MX_4;
wherein M is a Group 4, 5, or 14 metal; and
each X is a halogen.

31. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more Lewis acid(s) is represented by the formula MR_nX_{4-n};
wherein M is Group 4, 5, or 14 metal;
each R is a monovalent C_1 to C_{12} hydrocarbon radical independently selected from the group consisting of an alkyl, aryl, arylalkyl, alkylaryl and cycloalkyl radicals;
n is an integer from 0 to 3 ~~to 4~~; and
each X is a halogen.

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32. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more Lewis acid(s) is represented by the formula $M(RO)_nR'_mX_{4-(m+n)}$;
wherein M is Group 4, 5, or 14 metal;
each RO is a monovalent C_1 to C_{30} hydrocarboxy radical independently selected from the group consisting of an alkoxy, aryloxy, arylalkoxy, alkylaryloxy radicals;
each R' is a monovalent C_1 to C_{12} hydrocarbon radical independently selected from the group consisting of an alkyl, aryl, arylalkyl, alkylaryl and cycloalkyl radicals;
n is an integer from 0 to 3 ~~to 4~~;
m is an integer from 0 to 3 ~~to 4~~, wherein the sum of *n* and *m* is not more than 3 ~~4~~; and
each X is a halogen.

33. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more Lewis acid(s) is represented by the formula $M(RC{=}OO)_nR'_mX_{4-(m+n)}$;
wherein M is Group 4, 5, or 14 metal;
each RC=OO is a monovalent C_2 to C_{30} hydrocarbacyl radical independently selected from the group consisting of an alkacyloxy, arylacyloxy, arylalkylacyloxy, alkylarylacyloxy radicals;
each R' is a monovalent C_1 to C_{12} hydrocarbon radical independently selected from the group consisting of an alkyl, aryl, arylalkyl, alkylaryl and cycloalkyl radicals;
n is an integer from 0 to 3 ~~to 4~~;
m is an integer from 0 to 3 ~~to 4~~ , wherein the sum of *n* and *m* is not more than 3 ~~4~~; and
each X is a halogen.

34. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more Lewis acid(s) is represented by the formula MOX_3;
wherein M is a Group 5 metal; and
each X is a halogen.

35. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more Lewis acid(s) is represented by the formula MX_3;
wherein M is a Group 13 metal; and

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each X is a halogen.

36. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more Lewis acid(s) is represented by the formula MR_nX_{3-n} ;
wherein M is a Group 13 metal;
each R is a monovalent C_1 to C_{12} hydrocarbon radical independently selected from the group consisting of an alkyl, aryl, arylalkyl, alkylaryl and cycloalkyl radicals;
n is an integer from 1 to 2 ~~to 3~~; and
each X is a halogen.

37. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more Lewis acid(s) is represented by the formula $M(RO)_nR'_mX_{3-(m+n)}$;
wherein M is a Group 13 metal;
each RO is a monovalent C_1 to C_{30} hydrocarboxy radical independently selected from the group consisting of an alkoxy, aryloxy, arylalkoxy, alkylaryloxy radicals;
each R' is a monovalent C_1 to C_{12} hydrocarbon radical independently selected from the group consisting of an alkyl, aryl, arylalkyl, alkylaryl and cycloalkyl radicals;
n is an integer from 0 to 2 ~~to 3~~;
m is an integer from 0 to 2 ~~to 3~~, wherein the sum of *n* and *m* is from 1 to 2 ~~to 3~~; and
each X is a halogen.

38. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more Lewis acid(s) is represented by the formula $M(RC{=}OO)_nR'_mX_{3-(m+n)}$;
wherein M is a Group 13 metal;
each RC=OO is a monovalent hydrocarbacyl radical independently selected from the group independently selected from the C_2 to C_{30} group consisting of an alkacyloxy, arylacyloxy, arylalkylacyloxy, alkylarylacyloxy radicals;
each R' is a monovalent C_1 to C_{12} hydrocarbon radical independently selected from the group consisting of an alkyl, aryl, arylalkyl, alkylaryl and cycloalkyl radicals;
n is an integer from 0 to 2 ~~to 3~~;
m is a integer from 0 to 2 ~~to 3~~, wherein the sum of *n* and *m* is from 1 to 2 ~~to 3~~; and
each X is a halogen.

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39. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more Lewis acid(s) is represented by the formula MX_y;
wherein M is a Group 15 metal;
each X is a halogen; and
y is 3, 4 or 5.

40. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more Lewis acid(s) represented by the formula MR_nX_{y-n};
wherein M is a Group 15 metal;
each R is a monovalent C_1 to C_{12} hydrocarbon radical independently selected from the group consisting of an alkyl, aryl, arylalkyl, alkylaryl and cycloalkyl radicals;
n is an integer from 0 to 4;
y is 3, 4 or 5, wherein n is less than y; and
each X is a halogen.

41. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more Lewis acid(s) represented by the formula $M(RO)_nR'_mX_{y-(m+n)}$;
wherein M is a Group 15 metal,
each RO is a monovalent C_1 to C_{30} hydrocarboxy radical independently selected from the group consisting of an alkoxy, aryloxy, arylalkoxy, alkylaryloxy radicals;
each R' is a monovalent C_1 to C_{12} hydrocarbon radical independently selected from the group consisting of an alkyl, aryl, arylalkyl, alkylaryl and cycloalkyl radicals;
n is an integer from 0 to 4;
m is an integer from 0 to 4;
y is 3, 4 or 5, wherein the sum of *n* and *m* is less than y; and
each X is a halogen.

42. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more Lewis acid(s) is represented by the formula $M(RC{=}OO)_nR'_mX_{y-(m+n)}$;
wherein M is a Group 15 metal;

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each RC=OO is a monovalent C_2 to C_{30} hydrocarbacyloxy radical independently selected from the group consisting of an alkacyloxy, arylacyloxy, arylalkylacyloxy, alkylarylacyloxy radicals;
each R' is a monovalent C_1 to C_{12} hydrocarbon radical independently selected from the group consisting of an alkyl, aryl, arylalkyl, alkylaryl and cycloalkyl radicals;
n is an integer from 0 to 4;
m is an integer from 0 to 4;
y is 3, 4 or 5, wherein the sum of *n* and *m* is less than y; and
each X is a halogen.

43. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more Lewis acid(s) are independently selected from the group consisting of titanium tetrachloride, titanium tetrabromide, vanadium tetrachloride, tin tetrachloride, zirconium tetrachloride, titanium bromide trichloride, titanium dibromide dichloride, vanadium bromide trichloride, tin chloride trifluoride, benzyltitanium trichloride, dibenzyltitanium dichloride, benzylzirconium trichloride, dibenzylzirconium dibromide, methyltitanium trichloride, dimethyltitanium difluoride, dimethyltin dichloride, phenylvanadium trichloride, methoxytitanium trichloride, n-butoxytitanium trichloride, di(isopropoxy)titanium dichloride, phenoxytitanium tribromide, phenylmethoxyzirconium trifluoride, methyl methoxytitanium dichloride, methyl methoxytin dichloride, benzyl isopropoxyvanadium dichloride, acetoxytitanium trichloride, benzoylzirconium tribromide, benzoyloxytitanium trifluoride, isopropoyloxytin trichloride, methyl acetoxytitanium dichloride, benzyl benzoyloxyvanadium chloride, vanadium oxytrichloride, aluminum trichloride, boron trifluoride, gallium trichloride, indium trifluoride, ethylaluminum dichloride, methylaluminum dichloride, benzylaluminum dichloride, isobutylgallium dichloride, diethylaluminum chloride, dimethylaluminum chloride, ethylaluminum sesquichloride, methylaluminum sesquichloride , trimethylaluminum, triethylaluminum, methoxyaluminum dichloride, ethoxyaluminum dichloride, 2,6-di-tert-butylphenoxyaluminum dichloride, methoxy methylaluminum chloride, 2,6-di-tert-butylphenoxy methylaluminum chloride, isopropoxygallium dichloride, phenoxy methylindium fluoride, acetoxyaluminum

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dichloride, benzoyloxyaluminum dibromide, benzoyloxygallium difluoride, methyl acetoxyaluminum chloride, isopropoyloxyindium trichloride, antimony hexachloride, antimony hexafluoride, arsenic pentafluoride, antimony chloride pentafluoride, arsenic trifluoride, bismuth trichloride arsenic fluoride tetrachloride, tetraphenylantimony chloride, triphenylantimony dichloride, tetrachloromethoxyantimony, dimethoxytrichloroantimony, dichloromethoxyarsine, chlorodimethoxyarsine, difluoromethoxyarsine, acetatotetrachloroantimony, (benzoato) tetrachloroantimony, and bismuth acetate chloride.

44. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more Lewis acid(s) independently selected from the group consisting of aluminum trichloride, aluminum tribromide, ethylaluminum dichloride, ethylaluminum sesquichloride, diethylaluminum chloride, methylaluminum dichloride, methylaluminum sesquichloride, dimethylaluminum chloride, boron trifluoride, and titanium tetrachloride.

45. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises a~~ Lewis acid ~~that~~ is not a compound represented by formula MX_3, where M is a group 13 metal, X is a halogen.

46. (Currently amended) The process of claim 1, wherein the catalyst system <u>further</u> comprises a hydrogen halide, a carboxylic acid, a carboxylic acid halide, a sulfonic acid, an alcohol, a phenol, a polymeric halide, a tertiary alkyl halide, a tertiary aralkyl halide, a tertiary alkyl ester, a tertiary aralkyl ester, a tertiary alkyl ether, a tertiary aralkyl ether, an alkyl halide, an aryl halide, an alkylaryl halide or an arylalkylacid halide.

47. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more initiator(s) <u>is</u> independently selected from the group consisting of HCl, H_2O, methanol, $(CH_3)_3CCl$, $C_6H_5C(CH_3)_2Cl$, (2-Chloro-2,4,4-trimethylpentane) and 2-chloro-2-methylpropane.

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48. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more initiator(s) is independently selected from the group consisting of hydrogen chloride, hydrogen bromide, hydrogen iodide, acetic acid, propanoic acid, butanoic acid; cinnamic acid, benzoic acid, 1-chloroacetic acid, dichloroacetic acid, trichloroacetic acid, trifluoroacetic acid, p-chlorobenzoic acid, p-fluorobenzoic acid, acetyl chloride, acetyl bromide, cinnamyl chloride, benzoyl chloride, benzoyl bromide, trichloroacetylchloride, trifluoroacetylchloride, p-fluorobenzoylchloride, methanesulfonic acid, trifluoromethanesulfonic acid, trichloromethanesulfonic acid, p-toluenesulfonic acid, methanesulfonyl chloride, methanesulfonyl bromide, trichloromethanesulfonyl chloride, trifluoromethanesulfonyl chloride, p-toluenesulfonyl chloride, methanol, ethanol, propanol, 2-propanol, 2-methylpropan-2-ol, cyclohexanol, benzyl alcohol, phenol, 2-methylphenol, 2,6-dimethylphenol, p-chlorophenol, p-fluorophenol, 2,3,4,5,6-pentafluorophenol, and 2-hydroxynaphthalene.

49. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more initiator(s) is independently selected from the group consisting of 2-chloro-2,4,4-trimethylpentane; 2-bromo-2,4,4-trimethylpentane; 2-chloro-2-methylpropane; 2-bromo-2-methylpropane; 2-chloro-2,4,4,6,6-pentamethylheptane; 2-bromo-2,4,4,6,6-pentamethylheptane; 1-chloro-1-methylethylbenzene; 1-chloroadamantane; 1-chloroethylbenzene; 1, 4-bis(1-chloro-1-methylethyl) benzene; 5-tert-butyl-1,3-bis(1-chloro-1-methylethyl) benzene; 2-acetoxy-2,4,4-trimethylpentane; 2-benzoyloxy-2,4,4-trimethylpentane; 2-acetoxy-2-methylpropane; 2-benzoyloxy-2-methylpropane; 2-acetoxy-2,4,4,6,6-pentamethylheptane; 2-benzoyl-2,4,4,6,6-pentamethylheptane; 1-acetoxy-1-methylethylbenzene; 1-aceotxyadamantane; 1-benzoyloxyethylbenzene; 1,4-bis(1-acetoxy-1-methylethyl) benzene; 5-tert-butyl-1,3-bis(1-acetoxy-1-methylethyl) benzene; 2-methoxy-2,4,4-trimethylpentane; 2-isopropoxy-2,4,4-trimethylpentane; 2-methoxy-2-methylpropane; 2-benzyloxy-2-methylpropane; 2-methoxy-2,4,4,6,6-pentamethylheptane; 2-isopropoxy-2,4,4,6,6-pentamethylheptane; 1-methoxy-1-methylethylbenzene; 1-methoxyadamantane; 1-methoxyethylbenzene; 1,4-bis(1-methoxy-1-methylethyl)

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benzene; 5-tert-butyl-1,3-bis(1-methoxy-1-methylethyl) benzene, and 1,3,5-tris(1-chloro-1-methylethyl) benzene.

50. (Previously presented) The process of claim 1, wherein the catalyst system comprises a weakly-coordinating anion.

51. (Currently amended) The process of claim 1, wherein the ~~catalyst system comprises~~ one or more initiator(s) ~~comprising~~ comprises greater than 30 ppm water (based upon weight).

52. (Previously presented) The process of claim 1, wherein the one or more monomer(s) is independently selected from the group consisting of olefins, alpha-olefins, disubstituted olefins, isoolefins, conjugated dienes, non-conjugated dienes, styrenics, substituted styrenics, and vinyl ethers.

53. (Previously presented) The process of claim 1, wherein the one or more monomer(s) is independently selected from the group consisting of isobutylene, styrene, para-alkylstyrene, para-methylstyrene, alpha-methyl styrene, divinylbenzene, diisopropenylbenzene, isobutylene, 2-methyl-1-butene, 3-methyl-1-butene, 2-methyl-2-pentene, isoprene, butadiene, 2,3-dimethyl-1,3-butadiene, ß-pinene, myrcene, 6,6-dimethyl-fulvene, hexadiene, cyclopentadiene, methyl cyclopentadiene, piperylene, methyl vinyl ether, ethyl vinyl ether, and isobutyl vinyl ether.

54. (Previously presented) The process of claim 1, wherein the one or more monomer(s) comprise at least 80 wt% isobutylene based upon the total weight of the one or more monomer(s).

55. (Previously presented) The process of claim 1, wherein the polymerization temperature is from 15°C to -100°C.

56. (Previously presented) The process of claim 1, wherein the polymerization temperature is from -30°C to -70°C.

57. (Previously presented) The process of claim 1, wherein the polymerization temperature is from -40°C to -60°C.

58. (Cancelled)

59. (Cancelled)

60. (New) The process of claim 1 wherein the one or more monomers comprises an iosolefin.

61. (New) The process of claim 60 wherein the one or more monomers further comprises a multiolefin.

62. (New) The process of claim 61 wherein the isoolefin is isobutylene and the multiolefin is isoprene.

63. (New) The process of claim 1 wherein the one or more monomers comprises an isoolefin and an alkystyrene.

64. (New) The process of claim 63 wherein the alkylstyrene is p-methystyrene,

65. (New) The process of claim 1, wherein the one or more monomer(s) is independently selected from the group consisting of olefins, alpha-olefins, isoolefins, dienes, styrenics, and substituted styrenics.

66. (New) The process of claim 1 wherein the one or more monomer(s) is independently selected from the group consisting of isobutylene, styrene, para-alkylstyrene, para-methylstyrene, alpha-methyl styrene, divinylbenzene, diisopropenylbenzene, isobutylene, 2-methyl-1-butene, 3-methyl-1-butene, 2-methyl-2-pentene, isoprene, butadiene, 2,3-dimethyl-1,3-butadiene, ß-pinene, myrcene, 6,6-dimethyl-fulvene, hexadiene, cyclopentadiene, methyl cyclopentadiene, and piperylene.